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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,317	09/10/2004	Arash Massoudi		5316

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EXAMINER	
TO, BAOQUOC N	
ART UNIT	**PAPER NUMBER**
2162	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/711,317	MASSOUDI ET AL.	
	Examiner	Art Unit	
	Baoquoc N. To	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/08/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-12 are canceled and claims 13-38 are newly added in the amendment filed on 11/08/2006. Claims 13-38 are pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claims 13-38 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that "the claim 13 is directed to a system claim. A system clearly falls under the purview of statutory subject matter."

The examiner respectfully disagrees with the above argument. First, claim 3 recites the system which lack the necessary physical article to objects to constitute a machine or manufacture within the meaning of 35 USC 101. Although, the system include a high-performance run-time engine configured to…; however, there is teaching in the disclosure which discloses as hardware. Since there is no disclosure, the broad interpretation for "a high-performance run-time engine configure to.." is the software module. Second, the system recites in the steps to configure which indicate a program to configure to perform task. Thus, it is program per se. Last, there is not physical transformation and not practical application including a useful, concrete and tangible result, the only thing the claimed invention achieving is to transfer data between the first in-memory data component and the second in-memory data component according to the one or more mapping description. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for

which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. To satisfy one the first condition, result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skill artisan. To satisfy the second condition such as be limited practical application within the technological arts by showing a physical transformation (data transformation is not a physical transformation and is not, in and of itself, evidence of statutory subject matter). Where there is no physical transformation being claimed, a practical application would be established by a useful, concrete and tangible result. That result is useful if it has a specific substantial and credible utility. It's concrete if it produces an assured, repeatable result (e.g. same input produces the same output each time the steps are performed). For it to be tangible result, it must be more than just a thought or a computation. Instead, it must have a real world value rather than being an abstract result.

Applicant argues "new independent claim 20 is directed to a method that provides a "useful, concrete and tangible result." See state street Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3rd 1368, 1383-75, 47 USPQ2d, 1596, 1600-02 (Fed. Cir. 1998) (a claim data processing system for implementing a financial management structure satisfied the 101 inquiry because it constituted a "practical application of a mathematical algorithm...[by] produc [ing] a useful, concrete and tangible result." That is, the invention recited in claim 20 allows for traversing the hierarchy of one or more

data containers in first data structure description to determine a unique key for each leaf data element of the first data structure description, which unique key can, in a novel way, be used to automate transfer of data from a first in-memory data component to a second in-memory data component- a useful, concrete and tangible result."

The examiner respectfully disagrees with the above argument. Yes, a mathematical algorithm embedding the software for calculating to produce some value to return the user will produce useful, concrete and tangible result (for example a retrieval result being calculate in order to rank the result and display the result in according to the order of high to low); however, the mathematical algorithm itself or a computational idea will not meet the 36 USC 101. The "pre-ample recites "...a method for storing and retrieving actual data of a data structure in order to use the actual data of the data structure to perform data transfer; however, the body of the claim has a different achievement. There is not indication of retrieval of the actual data from the data structure and transferring the retrieved actual data being claimed. The body of the claim such as "identifying..., traversing....comprising: at least one of: determining... or determining... does not have any transformation or a practical application by establishing by a useful, concrete and tangible result. Traversing ...to determining a unique for each leaf data element of the first data structure description, comprising least one of: determining... or determining..." do not meet one of the two requirement where to be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a

skilled artisan, or (B) be limited to a practical application within the technological arts. To satisfy one the first condition, result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skill artisan. To satisfy the second condition such as be limited practical application within the technological arts by showing a physical transformation (data transformation is not a physical transformation and is not, in and of itself, evidence of statutory subject matter). Where there is no physical transformation being claimed to produce a result outside the computer, a practical application would be established by a useful, concrete and tangible result. That result is useful if it has a specific substantial and credible utility. It's concrete if it produces an assured, repeatable result (e.g. same input produces the same output each time the steps are performed). For it to be tangible result, it must be more than just a thought or a computation. Instead, it must have a real world value rather than being an abstract result.

Applicant argues "the new independent claim 31 is directed to a computer program product. "Without question, software code alone qualifies as an invention eligible for patenting under these categories, at least as processes." Eolas Technologies Inc. v. Microsoft Corp., 399 F.3d 1285, 1339 (Fed. Cir. 2005) (citations omitted). As such, the subject matter of claim 31 is patentable subject matter since it encompass a software product."

The examiner respectfully disagrees with the above argument. Software code

alone does not qualify to meet 35 USC 101 requirements because it is consider to be non-statutory under non-functional descriptive material (e.g. a piece of paper with the instruction written on it. However, software code embedding storage medium or product will be meet considered as statutory only when it is executed. It if is not yet being executed, then it is considered to be functional descriptive material and will not satisfy the 35 USC 101. Claim 31 recites "a computer program product for use in a system having a processor, the computer program product comprising a computer useable medium having computer readable program code stored thereon, the computer readable program code comprising computer executable instructions that, when executed by a processor, cause the computer program product to perform the following:...." Although, claim 31 meets one statutory 35 USC 101 requirements such as computer program product having instructions stored thereon and the instruction that, when executed by a processor (the claim has a least one necessary physical articles or object to constitute a machine or a manufacture within the meaning of 35 USC 101); however, the program product having instructions which has not being executed. Therefore, it is considered a functional descriptive material pro se.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive

material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.") Lastly, the claim 31 only recites "map…, set data values…, get the data values…and automatically transfer…" which only indicate data transfer from the first in-memory data component to the second in-memory data component and not yet being received by the second in-memory data component and stored thereon which will not meet one of the two required 35 USC 101 for being physical transformation to produce result outside computer or be limited to a practical application would claiming a physical transformation or where physical transformation no physical transformation being claimed, a practical application would be establish by a useful, concrete and tangible result by showing useful result requires specific substantial and credible utility, concrete requires to produce an assured, repeatable result (e.g. same input procedures the same output each time the steps are performed), tangible requires it must be more than just a thought or a computation. Instead, it must have a real value rather than being an abstract result.

Applicant also argues "new independent claim 38 directed a method for traversing one or more leaf data element in a first data structure description to determine a unique key for each leaf data element, which unique key can, in a novel

way, be used to automate transfer of data from a first in-memory data component to a second in-memory data component – a useful, concrete and tangible result."

The examiner respectfully disagrees with the above argument. As state in the pre-ample "…a method for and retrieving actual data of a data structure in order to use the actual data of the data structure to perform data transfer functions…"; however, the limitations in the body of the claim has different achievement such as "identifying one or more leaf data elements in a first data structure description…; and traversing the one or more leaf data element in the first data structure description to determine a unique key for each leaf data element…and storing the key in a lookup table of an in-memory data component." The claim limitations include the storing the generated unique key for each leaf data element; however, it not being claim that the generated unique key use to retrieve the actual data from the data structure in order to use the actual data of the data structure to perform data transfer functions. Nor the transferring is being claimed. The claim does not produce a useful, concrete and tangible result.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

MPEP 2106 IV. B.2. (b)

A claim that requires one or more acts to be performed defines a process.

However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at

296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts.

a) "USEFUL RESULT" MPEP 2107.01

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP § 2107 and *Fisher*, 421 F.3d at 1372, 76 USPQ2d at 1230 (citing the Utility Guidelines with approval for interpretation of "specific" and "substantial"). In addition, when the examiner has reason to believe that the claim is not for a practical application that produces a useful result, the claim should be rejected, thus requiring the applicant to distinguish the claim from the three 35 U.S.C. 101 judicial exceptions to patentable subject matter by specifically reciting in the claim the practical application. In such cases, statements in the specification describing a practical application may not be sufficient to satisfy the requirements for section 101 with respect to the claimed invention. Likewise, a claim that can be read so broadly as to include statutory and nonstatutory subject matter must be amended to limit the claim to a practical application. In other words, if the specification discloses a practical application of a section 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected.

3. Claims 13-38 in view of the above cited MPEP section, are not statutory because claims they merely recite computing steps without producing any concrete and useful result and/or being limited to a practical application within the technological arts. In addition, claim 13 lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. Further claim 31 recites "a computer program product for use in a system having a processor, the computer program product comprising a computer usable medium having computer readable program code stored thereon, the computer readable program code comprising computer executable instructions that, when executed by a processor, cause the computer program product to perform the following..." which has not being executed. They are, at best, functional descriptive material *per se*. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.")

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 38 is rejected under 35 U.S.C. 102(e) as being anticipated by Carr (US. Patent No. 6,697,363 B1).

38. (New) In a distributed computer system comprising one or more data structures, a method for storing and retrieving actual data of a data structure in order to use the actual data of the data structure to perform data transfer function, the method comprising:

identifying one or more leaf data element in a first data structure description, where the one or more leaf data elements are at least one of a singular leaf data element or a plural leaf data element (the leaf data element is identified and stored in the leaf table) (col. 11, lines 19-25); and

traversing the one or more leaf data element in the first data structure description to determine a unique for each leaf data element, wherein, for each singular or plural leaf data element, a key is generated comprising at least a part of a hierarchical path to the singular or plural leaf data element, and storing the key in the lookup table of an in-memory data components (the leaf table index storing key to retrieve forwarding decision in the leaf table) (col. 11, lines 15-25).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gold (US. Patent No. 6,563,441 B1) May 13, 2003

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041, or unofficial fax number for the purpose of discussion (571) 273-4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(571) 273-8300 [Official Communication]

BQ To

January 19th, 2007

JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100